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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,311	05/25/2001	David Allan Cook	06007/37458	4324

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EXAMINER

LOPEZ, FRANK D

ART UNIT

PAPER NUMBER

3745

DATE MAILED: 03/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/866,311

Applicant(s)

COOK ET AL.

Examiner

F. Daniel Lopez

Art Unit

3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Amendment

Applicant's arguments filed January 8, 2003, have been fully considered but they are not deemed to be persuasive.

Applicant's arguments with respect to claims 7-13 have been considered but are deemed to be moot in view of the new grounds of rejection. The new grounds of rejection are necessitated by the added limitations that the first valve permits flow only from the accumulator to the feed line in the first position (e.g. claim 7 line 14-16).

Applicant argues that Marchi et al does not disclose the claimed check valve that permits flow from the first chamber to the selection valve when the second chamber is pressurized. Applicant is mistaken. The check valve (40, 42) meets this limitation. Compare this check valve with applicants' check valve (including 39) and it is clear that the check valves are identical.

Applicant argues that Drake et al does not disclose the claimed first and second control valves. Applicant is mistaken. The first and second control valves (74, 76) clearly meet the limitations of the claims. Note that claim 1 claims "the first control valve movable between a first position in which passage of hydraulic fluid is prevented in one direction". Although the first control valve (74) prevents flow in both directions, it clearly meets this limitation, since it also prevents flow in one direction (the claim does not limit what the flow is in the other direction).

Applicant argues that the three references are very different from one another, because all three are concerned with very different functions, and therefore it can not be obvious to combine these references. Applicant is mistaken, in that all three references are related to a vehicle having a hydraulic cylinder lifting a load. It is true that each reference is dealing with a different aspect of lifting that load. But one of ordinary skill in this art would recognize that the aspects taught by Marchi et al and Drake et al are important aspects, which can be combined with Bauer, in order to take care of the respective function.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

Claim 13 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 13 line 3-4 "the second control valve shifting back to the first position when lowering the loader arm assembly when in the ride improving mode" is confusing, since it appears to be a method step in an apparatus claim. If claim 13 was definite, it would be rejected by the combination of Bauer, Marchi et al, Drake et al A'Hearn et al.

Claim Rejections - 35 USC § 103

Claims 1-4 and 6 are rejected under 35 U.S.C. § 103 as being unpatentable over Bauer in view of Marchi et al and Drake et al. Bauer discloses a wheeled loader comprising an arm (21) pivotally connected at a rear end of a body (12, 13) and extending forwardly, such that a working implement (27) is in front of the body; a cylinder (25, 26) having first and second chambers (connected to 230, 231, respectively) connected to a manually operated selection valve (80), wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber and accepts fluid under a lower pressure from the second chamber, and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; but does not disclose first and second electrically operated solenoid type control valves having a first position where passage of fluid in at least one direction is prohibited and having a second position where passage of fluid therethrough is allowed, with the first control valve connected between the first chamber and an accumulator and the second control valve connected between the second chamber and a low pressure region; wherein a manually operated switch supplies current to the solenoid valves; wherein a switch senses a position of the selection valve to close the second control valve when the arm is lowered and the control valves are open; that there is a check valve connected between the first chamber and the selection valve, preventing flow from the first chamber to the selection valve, with a means for connecting the second chamber to a fluid responsive means to

open the check valve; or that at least one of the accumulator, solenoid valves, check valve and connecting pipes are made of metal.

Marchi et al teaches, for a wheeled loader comprising an arm (e.g. 14) pivotally connected to a body (10); a cylinder (18) having first and second chambers (26, 24) connected to a manually operated selection valve (34), wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber and accepts fluid under a lower pressure from the second chamber, and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; that there is a check valve (42) mounted directly to the cylinder and connected between the first chamber and the selection valve, preventing flow from the first chamber to the selection valve, with a means (46) for connecting the second chamber to a fluid responsive means to open the check valve, for the purpose of preventing a drop of the arm when a fluid passage fails (e.g. column 2 line 42-47).

Since Bauer and Marchi et al are both from the same field of endeavor, the purpose disclosed by Marchi et al would have been recognized in the pertinent art of Bauer. It would have been obvious at the time the invention was made to one having ordinary skill in the art to mount a check valve directly to the cylinder and connect the check valve between the first chamber and the selection valve of Bauer, preventing flow from the first chamber to the selection valve, with a means for connecting the second chamber to a fluid responsive means to open the check valve, as taught by Marchi et al, for the purpose of preventing a drop of the arm when a fluid passage fails.

Drake et al teaches, for a wheeled loader comprising an arm (22) pivotally connected to a body (12); a cylinder (32, 34) having first and second chambers (42, 44) connected to a manually operated selection valve (46), wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber and accepts fluid under a lower pressure from the second chamber, and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; that there are first and second electrically operated solenoid type control valves (74, 76) having a first position where

passage of fluid in at least one direction is prohibited and having a second position where passage of fluid therethrough is allowed, with the first control valve connected between the first chamber and an accumulator (72) and the second control valve connected between the second chamber and a low pressure region (28); wherein a manually operated switch (84) supplies current to the solenoid valves; and a switch (86) senses a position of the selection valve to close the second control valve when the arm is lowered and the control valves are open, for the purpose of absorbing shocks from the bucket to provide a smoother ride.

Since Bauer and Drake et al are both from the same field of endeavor, the purpose disclosed by Drake et al would have been recognized in the pertinent art of Bauer. It would have been obvious at the time the invention was made to one having ordinary skill in the art to provide first and second electrically operated solenoid type control valves having a first position where passage of fluid in at least one direction is prohibited and having a second position where passage of fluid therethrough is allowed, with the first control valve connected between the first chamber and an accumulator of Bauer and the second control valve connected between the second chamber and a low pressure region of Bauer; wherein a manually operated switch supplies current to the solenoid valves; and another switch senses a position of the selection valve to close the second control valve when the arm is lowered and the control valves are open, as taught by Drake et al, for the purpose of absorbing shocks from the bucket to provide a smoother ride.

Official notice is taken that it is well known to make at least one of the accumulator, solenoid valves, check valve and connecting pipes from metal. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make at least one of the accumulator, solenoid valves, check valve and connecting pipes of Bauer from metal, as a matter of engineering expediency.

Claim 5 is rejected under 35 U.S.C. § 103 as being unpatentable over Bauer in view of Marchi et al in view of Drake et al, as applied to claim 1 above, and further in

view of Japan 64-66324. The modified Bauer discloses all of claim 5, but does not disclose that the accumulator and control valves are mounted directly on the cylinder.

Japan 64-66324 teaches, for a wheeled loader comprising an arm pivotally connected to a body (abstract); a cylinder (8) having first and second chambers (8a, 8b) connected to a manually operated selection valve (13), wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber and accepts fluid under a lower pressure from the second chamber, and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; with a first electrically operated solenoid type control valve (15) connected between the first chamber and an accumulator (18), and having a first position where passage of fluid in at least one direction is prohibited and having a second position where passage of fluid therethrough is allowed, for absorbing shocks from the arm; that the accumulator and control valve are mounted directly on the cylinder.

Since the modified Bauer does not disclose how the accumulator and control valves are mounted, and Japan 64-66324 does; it would have been obvious at the time the invention was made to one having ordinary skill in the art to mount the accumulator and first control valve of the modified Bauer directly on the cylinder, as taught by Japan 64-66324, as a matter of engineering expediency.

Official notice is taken that it is well known to place all valves in a common valve block, for ease of assembly. Since the check valve and the first solenoid valve of the modified Bauer are directly mounted on the cylinder; it would have been obvious at the time the invention was made to one having ordinary skill in the art to place the check valve, and first and second control valves of the modified Bauer in a common block, mounted to the cylinder, for ease of assembly.

Claims 1, 2, and 6-13, inasmuch as they are definite, are rejected under 35 U.S.C. § 103 as being unpatentable over Bauer in view of Marchi et al and A'Hearn et al. Bauer discloses a wheeled loader comprising an arm (21) pivotally connected at a rear end of a body (12, 13) and extending forwardly, such that a working implement (27)

Art Unit: 3745

is in front of the body; a cylinder (25, 26) having first and second chambers (connected to 230, 231, respectively) connected to a manually operated selection valve (80), wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber and accepts fluid under a lower pressure from the second chamber, and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; but does not disclose first and second electrically operated solenoid type control valves having a second position where passage of fluid therethrough is allowed and a first position, with the first control valve connected between the first chamber and an accumulator, permitting flow only from the accumulator to the first chamber in the first position, and the second control valve connected between the second chamber and a low pressure region, preventing flow therebetween in the first position; wherein a manually operated switch supplies current to the solenoid valves; that there is a check valve connected between the first chamber and the selection valve, preventing flow from the first chamber to the selection valve, with a means for connecting the second chamber to a fluid responsive means to open the check valve; or that at least one of the accumulator, solenoid valves, check valve and connecting pipes are made of metal.

Marchi et al teaches, for a wheeled loader comprising an arm (e.g. 14) pivotally connected to a body (10); a cylinder (18) having first and second chambers (26, 24) connected to a manually operated selection valve (34), wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber and accepts fluid under a lower pressure from the second chamber, and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; that there is a check valve (42) mounted directly to the cylinder and connected between the first chamber and the selection valve, preventing flow from the first chamber to the selection valve, with a means (46) for connecting the second chamber to a fluid responsive means to open the check valve, for the purpose of preventing a drop of the arm when a fluid passage fails (e.g. column 2 line 42-47).

Since Bauer and Marchi et al are both from the same field of endeavor, the purpose disclosed by Marchi et al would have been recognized in the pertinent art of Bauer. It would have been obvious at the time the invention was made to one having ordinary skill in the art to mount a check valve directly to the cylinder and connect the check valve between the first chamber and the selection valve of Bauer, preventing flow from the first chamber to the selection valve, with a means for connecting the second chamber to a fluid responsive means to open the check valve, as taught by Marchi et al, for the purpose of preventing a drop of the arm when a fluid passage fails.

A'Hearn et al teaches, for a wheeled loader comprising an arm pivotally connected to a body; a cylinder (16) having first and second chambers (connected to 18, 20, respectively) connected to a manually operated selection valve (24), wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber and accepts fluid under a lower pressure from the second chamber, and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; that there are first and second manually operated control valves (50, 47) having a second position where passage of fluid therethrough is allowed and a first position, with the first control valve connected between the first chamber and an accumulator (42), permitting flow only from the accumulator to the first chamber in the first position (via 60), and the second control valve connected between the second chamber and a low pressure region (23), preventing flow therebetween in the first position, for the purpose of absorbing shocks from the bucket to provide a smoother ride.

Since Bauer and A'Hearn et al are both from the same field of endeavor, the purpose disclosed by A'Hearn et al would have been recognized in the pertinent art of Bauer. It would have been obvious at the time the invention was made to one having ordinary skill in the art to provide first and second manually operated control valves having a second position where passage of fluid therethrough is allowed and a first position, with the first control valve connected between the first chamber and an accumulator of Bauer, permitting flow only from the accumulator to the first chamber in the first position, and the second control valve connected between the second chamber

Art Unit: 3745

and a low pressure region of Bauer, preventing flow therebetween in the first position, as taught by A'Hearn et al, for the purpose of absorbing shocks from the bucket to provide a smoother ride.

Official notice is taken that it is well known to make at least one of the accumulator, solenoid valves, check valve and connecting pipes from metal. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make at least one of the accumulator, solenoid valves, check valve and connecting pipes of Bauer from metal, as a matter of engineering expediency.

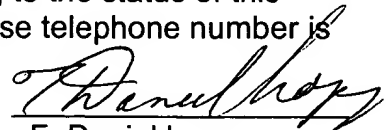
Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is (703) 308-0008. The examiner can normally be reached on Monday-Thursday from 6:30 AM -4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on (703) 308-1044. The fax number for this group is (703) 872-9302. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861.



F. Daniel Lopez
Primary Examiner
Art Unit 3745
March 24, 2003